Washington State
Institute for
Public Policy

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June 12, 2006

PROMOTING ACADEMIC SUCCESS EVALUATION STUDY DESIGN

Background

The 2006 Legislature directed the Washington State Institute for Public Policy (Institute) to evaluate the effectiveness of remedial programs funded through the Promoting Academic Success (PAS) program.[1] The legislative language for this study is as follows:

> *…perform a quantitative analysis of the effectiveness of the remedial programs funded as part of the promoting academic success program. The evaluation should focus on determining:*
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> *(a) the effectiveness of the remedial programs in helping students pass the WASL;*
>
> *(b) the relative effectiveness of different remedial strategies offered; and*
>
> *(c) the relative effectiveness of the remediation disaggregated by student characteristics, including, at a minimum, economic status, limited English proficiency, and ethnicity.*
>
> *The office of the superintendent of public instruction shall provide all data necessary to conduct such analyses, and shall help coordinate data collection directly from districts administering the remedial programs as necessary.*

Evaluating the effectiveness of PAS programs involves tracking the following activities of 10th grade students who do not meet standards on one or more WASL content areas in spring 2006:

- Participation in a PAS remedial program during summer 2006
- Retake of the 10th grade WASL in August 2006
- Enrollment in school in the 2006–07 school year
- Participation in a remedial program during the 2006–07 school year
- Retake of the 10th grade WASL in April 2007
- Participation in a remedial program during summer 2007
- Retake of the 10th grade WASL in August 2007
- Enrollment in school in the 2007–08 school year
- Participation in a remedial program during the 2007–08 school year
- Retake of the 10th grade WASL in April 2008.

[1] ESSB 6386, §607 (11), Chapter 372, Laws of 2006, supplemental operating budget.

Research Questions

Assuming the data about each student and the student's activities are available, the study can address the following questions:

- Which students tend to enroll in remedial programs?
- Which students drop out of school subsequent to taking a remedial program or the WASL?
- Which students retake the 10th grade WASL in the 11th grade?
- How does participation in a remedial program affect passing the WASL?
- How do different remedial strategies affect passing the WASL?
- How do student characteristics relate to the effectiveness of remediation?

Study Methods

Evaluating remedial program effectiveness. The gold standard for evaluating the effectiveness of the remedial programs would involve randomly assigning some students to a remedial program and other students to no program. Any differences between these groups in passing the WASL retest would be attributed to the remediation program, because the program is the only consistent difference between the groups. Obviously, random assignment is not possible in this situation, and an alternative evaluation design is needed. The difficulty lies in identifying a comparison group. Knowing how many students will and will not be participating in a remedial program will shape the alternative design.

The feasibility of conducting a valid evaluation of the overall effectiveness of PAS programs depends upon the existence of a sufficient number of students who do not participate in a remedial program. These students would form a group whose WASL retest results can be compared with those students who do participate. Since participation in the remedial program is voluntary, there may be other differences between the two groups that confound the retest results. For example, if only more motivated students volunteer for a remedial program, and these students do better on the retest, was it motivation or the remedial program that caused the difference? This is a concern, because decision-makers want to know if money for the remedial programs is well spent.

To reduce the impact of this student self-selection bias, it is necessary to measure and statistically control for student characteristics that may influence their retest results. The 9th grade student survey data collected from the 2005 Iowa Test of Educational Development (ITED) contain helpful information about the students taking the 2006 10th grade WASL and their families that can be used as statistical controls. In addition, previous WASL and ITED results can be included as statistical controls.

If only a few students who do not meet standards on the 10th grade WASL do not participate in a remedial program, then forming a valid comparison group of sufficient size may not be possible, and there will be no estimate of the overall impact of PAS programs. In this situation, the evaluation will compare the characteristics of various PAS programs to determine if some program characteristics generate better results than others.

Evaluating the relative effectiveness of different remedial strategies. Examining the relative effectiveness of different remedial strategies requires defining a set of characteristics that describe the essential attributes of each remedial strategy and a way of reliably measuring them. Estimates of how the various strategy characteristics influence student performance can then be made. The

Institute will work with educators to identify these remedial program characteristics and a method for reliably measuring them.

This design relies on having variation in characteristics across PAS programs that are subsequently related to different WASL retest success rates. If there is little variation in program characteristics, it may not be possible to estimate which, if any, characteristics improve WASL results. In this case, only the relationship between student characteristics and WASL improvements can be examined.

Estimating the influence of student characteristics. The 2006 Legislature also directed the Institute to examine student characteristics, including economic status, English Language Learner (ELL) status, and ethnicity, to determine their influence on the effectiveness of the remediation. As previously mentioned, student characteristics from test-related student surveys will be included in the analyses as well as any other data describing the student's background, career path, motivation, and previous academic performance.

Threats to Validity—Self-Selection Bias

Self-selection bias among remedial program participants. At this time, the number of students who will participate in a remedial program and when they will participate is unknown. As previously mentioned, if only a few students who do not meet standards on the 10th grade WASL do not participate in a remedial program, then forming a valid comparison group may not be possible. In addition, if only certain types of students choose not to participate in a PAS program, evaluation of remedial programs may be compromised. For example, if a disproportionate number of students with very low WASL scores choose not to participate in a program, these students would not constitute a valid comparison group. To overcome this self-selection bias, it is necessary to analyze the characteristics of students who do and do not participate in a remedial program.

Self-selection bias among those who retake the WASL. The evaluation design assumes that all students who do not meet standards on the 10th grade WASL will retake the test before the end of the 12th grade.[2] If a large number of students choose not to take a WASL retest, the sample used to analyze the effectiveness of the remedial programs may be biased. A comparison of those students with a WASL retake and those without will indicate the presence of this selection bias. To avoid this bias, it may be necessary to use the original 10th grade WASL scores.

Self-selection bias through dropping out of school. The evaluation design also assumes that students will not drop out of school after the 10th grade. Tracking 10th grade students' enrollment in school will enable us to compare students who remain in school with those who drop out. This may also indicate if the WASL graduation requirement has an effect on high school drop-out rates.

Data Needed for Study

OSPI data. The Institute will need all student data collected by the Office of Superintendent of Public Instruction (OSPI). These data must include all WASL test results for all students and all grades. The Institute also needs all student identification information to track and link data for analysis. The Institute will need all 2005 9th grade ITED data for students taking the 10th grade WASL in 2006.

Characteristics of PAS remedial programs. To evaluate the relative effectiveness of different remedial strategies, data describing characteristics of PAS remedial programs in each school must

[2] Although the December 2007 report deadline precludes us from including retakes from the spring 2008 test, we may include results from the 2008 test in a follow-up report.

be collected. The Institute will work with educators to develop a survey of PAS teachers that reliably measures the most relevant program characteristics. These characteristics will include:

- Subject area (reading, writing, and/or math)
- Type of instructional strategies (classes, tutoring, etc.)
- Attributes describing each strategy
- Number of hours for program
- Number of teachers
- Number of teacher aides
- Teacher quality measures

The Institute will construct the survey to be given to each person who provides remedial instruction with PAS funding. The Institute will contact each school district to determine who is providing the remedial programs in their district and the instructor's school address. The Institute will then contact the program instructor via e-mail and US mail. Each instructor can complete a mailed paper copy or an Internet-based survey.

Students assigned to each instructor. The Institute must be able to identify the students that each remedial instructor taught and when the students received the instruction. The Institute will work with OSPI to develop a method for collecting this information.

Timeline

An interim report is due to the Legislature by December 15, 2006. The final report is due December 15, 2007.